

## CLAIMS

1. A vocoder selection method for providing communication  
5 compatibility of an originator with a terminator and vice-versa, the vocoder selection method comprising the steps of:  
requesting by the originator through a communication  
network to a call controller for a connection to the  
terminator;  
10 determining by the call controller whether a transcoder  
is required for the connection between the originator and the  
terminator; and  
if the transcoder is required, inserting the transcoder  
by the call controller into the connection.  
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2. The vocoder selection method as claimed in claim 1,  
wherein there is further included a step of registering by the  
transcoder with the call controller.
- 20 3. The vocoder selection method as claimed in claim 2,  
wherein the step of registering includes a step of registering  
by a plurality of transcoders with the call controller.
4. The vocoder selection method as claimed in claim 3,  
25 wherein the step of registering further includes a step of  
transmitting a set of vocoder capabilities from the transcoder  
to the call controller.
5. The vocoder selection method as claimed in claim 1,  
30 wherein there is further included a step of requesting by the  
call controller to the communication network for connection  
with the terminator.
6. The vocoder selection method as claimed in claim 1,  
35 wherein there is further included a step of acknowledging by  
the call controller to the originator for the connection with  
the terminator.

7. The vocoder selection method as claimed in claim 1, wherein there is further included a step of acknowledging by the call controller to the terminator the connection with the originator.

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8. The vocoder selection method as claimed in claim 1, wherein if the step of determining by the call controller indicates that the transcoder is not required, there is further included a step of instructing by the call controller the communication network to make the connection directly between the originator and the terminator.

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9. The vocoder selection method as claimed in claim 1, wherein the step of requesting by the originator includes a step of transmitting a set of vocoder capabilities of the originator to the call controller.

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10. The vocoder selection method as claimed in claim 1, wherein there is further included a step of transmitting a set of vocoder capabilities of the terminator to the call controller.

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11. The vocoder selection method as claimed in claim 10, wherein the step of inserting the transcoder by the call controller into the connection includes a step of selecting by the call controller a transcoder for providing communication capability of the originator and the terminator.

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12. The vocoder selection method as claimed in claim 11, wherein a step of selecting the transcoder further includes a step of optimally selecting the transcoder on a basis of audio quality.

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13. The vocoder selection method as claimed in claim 1, wherein the communication network includes a mobile telecommunication network.

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14. The vocoder selection method as claimed in claim 1, wherein the communication network includes a wide area network.

5 15. The vocoder selection method as claimed in claim 1, wherein:

the originator includes at least one of:

a mobile station; and/or

an internet protocol phone; and

10 the terminator includes at least one of:

a mobile station; and/or

an internet protocol phone.

16. A vocoder selection method for a communication network for providing communication between an originator and a terminator, the vocoder selection method comprising the steps of:

- 5       determining by a call controller a first set of vocoders supported by the originator;  
          determining by the call controller a second set of vocoders supported by the terminator; and  
          inserting by the call controller a transcoder having at  
10   least one vocoder of the first set of vocoders and at least one vocoder of the second set of vocoders.

17. The vocoder selection method as claimed in claim 16, wherein the step of inserting includes a step of optimally  
15   selecting the transcoder based upon audio quality of the first and second sets of vocoders.

18. The vocoder selection method as claimed in claim 16, wherein the step of inserting includes a step of optimally  
20   selecting the transcoder based upon a minimum bandwidth of the first and second vocoders.

19. The vocoder selection method as claimed in claim 16, wherein the step of inserting includes a step of optimally  
25   selecting the transcoder based upon a preferred match of the first and second sets of vocoders.

20. A vocoder selection method for supporting a call through a communication network between an originator and a terminator, the vocoder selection method comprising the steps of:

5        obtaining a first set of vocoder capabilities of the originator;

         obtaining a second set of vocoder capabilities of the terminator; and

10        selecting a transcoder for supporting at least one of the first set of the vocoder capabilities of the originator and for supporting at least one of the second set of the vocoder capabilities of the terminator.